

DRAWINGS

The Examiner has objected to the drawing for failing to include certain element numbers. Upon further inspection it has become apparent that while the drawings themselves are correct, incorrect element numbers have been used in the specification. The specification has been amended accordingly, below.

IN THE SPECIFICATION

On page 1 please replace the first paragraph with the following:

U.S. patent application docket number ~~SJ09-2001-00112US1~~, US 2005/0061658

A1, entitled DUAL MAGNETIC TUNNEL JUNCTION SENSOR WITH A LONGITUDINAL BIAS STACK, was filed on the same day, owned by a common assignee at the time of filing and having the same inventors as the present invention.

On pages 14-16 please replace section beginning on line 16 of page 14 and ending on page 16, line 4 with the following:

Fig. 4 is a side cross-sectional elevation view of a "piggyback" read/write head 400, which includes a write head portion 402 and a read head portion 404, the read head portion employing a dual SV sensor 406 according to the present invention. The SV sensor 406 according is sandwiched between ferromagnetic first and second shield layers 412 414 at the ABS 440. A nonmagnetic insulating layer 409 is sandwiched between the first and second shield layers 412 and 414 in the region behind the sensor extending away from the ABS to prevent shorting between the shield layers. In

response to external magnetic fields, the resistance of the SV sensor 506 changes. A sense current I_s conducted through the sensor causes these resistance changes to be manifested as voltage changes. These voltage changes are then processed as readback signals by the processing circuitry of the data recording channel ~~346~~ 325 shown in Fig. 3.

The write head portion 402 of the magnetic read/write head 400 includes a coil layer 416 sandwiched between first and second insulating layers 418 and 420. A third insulating layer ~~522~~ 422 may be employed for planarizing the head to eliminate ripples in the second insulating layer 420 caused by the coil layer 416. The first, second and third insulating layers are referred to in the art as an insulation stack. The coil layer 416 and the first, second and third insulating layer 418, 420 and 422 are sandwiched between first and second pole piece layers 424 and 426. The first and second pole piece layers 424 and 426 are magnetically coupled at a back gap 428 and have first and second pole tips 430, 432 which are separated by a write gap layer 434 at the ABS 440. An insulating layer 436 is located between the second shield layer 414 and the first pole piece layer 424. Since the second shield layer 414 and the first pole piece layer 424 are separate layers, this read/write head is known as a "piggyback" read/write head.

Fig. 5 is the same as Fig. 4 except the second shield layer ~~514~~ 414 and the first pole piece layer ~~524~~ 424 are a common layer. This type of read/write head is known as a "merged" head 500. the insulation layer 436 of the piggyback head in Fig. 4 is omitted in the merged head 500 of Fig. 5.